

Title	Carrier-envelope phase stable few-cycle pulses at 400 kHz for electron-ion coincidence experiments
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Abstract	Coincident electron-ion detection after photoionization in a “reaction microscope” is a very powerful tool to study atomic and molecular dynamics. However, the implementation of this tool in the field of attosecond science has so far been rather limited, due to the lack of high repetition rate laser sources capable of delivering few-cycle pulses with sufficient energy per pulse. In this article, the development of a Non-collinear Optical Parametric Amplifier (NOPA) capable of delivering Carrier-Envelope Phase (CEP) stable pulses with sub-6 fs duration and pulse energies in the few- μ J range is presented. The potential of combining the high repetition rate source and a reaction microscope operating at this high frequency is demonstrated in a proof-of-principle experiment on strong field ionization of Ar atoms.
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